

ABSTRACT

A transmitter 131 in a communication system 101 receives data to be transferred, performs STBC coding thereon to acquire two signals, performs an OFDM transmission process on the signals which are radio-transmitted to from antennas 141, 142 having polarization polarities orthogonal to each other. A receiver 151 radio-receives the signals using antennas 161, 162 having polarization polarities orthogonal to each other, and performs STBC decoding on two signals acquired by performing an OFDM reception process on the received signals, respectively, thereby acquiring the transferred data. The inclinations of the antenna 141 and the antenna 161 are equal to the inclinations of the antenna 142 and the antenna 162, and are typically 45 degrees.